

Why Comply?

By Jesse Cryderman

Navigating the world of telecom standards is like swimming in a sea of alpha-numeric soup. Misread a letter and you could be talking about streaming-video QoS metrics instead of VoIP protocol. Indulge in a cursory swim through this sea, however, and eventually some acronyms pop up more frequently than others. Beyond signifying the iteration of a standard in its historical hierarchy (OC-768 logically offers more bandwidth than OC-48), standards enable interoperability, ensure regulatory compliance, actuate security measures, and are often times crucial components of a proposal.

Seen another way, if the myriad bits of data speeding around the globe are like words, and operating systems and networks are like word aggregators, standards are like grammar and syntax of an über-language. They allow devices of all sorts to communicate with each other in a manner that is geographically and culturally agnostic. Hidden within the incremental lineage of NATDTT, for example, are rules that facilitate the interoperability that we have come to expect in the digitally connected age.

Standards are also big business.

In general, the companies who have the most to gain (or lose) are the most engaged with the standards bodies. So vendors and carriers with the most diversified business models generally have a presence on a wide spectrum of standards bodies. In consumer video, Sony lost with BetaMax, but determined not to lose the video format war a second time, drove loss-leader promotions on the Blu-Ray-equipped Playstation 3 and paid \$50,000 to be a member of the Blu Ray Disc Association. In telecom, the competing 4G standards are WiMAX and LTE, but the shrinking size of the WiMAX forum and recent news from Sprint and Clear regarding LTE build-outs paints a bleak future for the WiMAX standard and the vendor companies invested in the network components and devices that comprise the WiMAX ecosystem. In wireless IP networking, the Institute for Electrical and Electronics Engineers (IEEE) decided to embrace 802.11i instead of WAPI for WLAN encryption—bad news for router manufacturers who posed WAPI as their on-board security protocols.

As we'll see, standards actuate the future and speed of interconnectivity and as such play a major role in shaping our industry. Since there are a massive number of standards, we could quickly fall down a rabbit hole of chronicling standards revisions, the process of standardization for SIP, etc. so it's



important to define our scope. This article is not a reference catalog of every standard in existence; for one, this piece would rapidly become a titanic tome. Secondly, such documents and online indices are already in existence (<http://tsk.telcordia.com/tsk/index.cfm>). The list won't be exhaustive, but what it will do is provide some high-level clarity around which standards are most important in telecom today and who is compliant.

While there are many groups advocating innumerable standards and competing to drive standard adoption, a closer look at the landscape reveals what vendors and carriers really think about standards compliance.

Major Standards Bodies

David Fazhong Deng, Co-Founder & CTO, OSSera, Inc., explained the importance of standards to both vendors and carriers in today's market: "Standards set the stage for business transformation to connect the dots. Standards define the necessary systems, organizations, and interactions necessary to make this happen."

Today there are numerous standards developing organizations (SDOs) that touch telecommunications. These include:

- ITU-T: International Telecommunication Union, Telecom Standardization Sector www.itu.int
- ETSI: European Telecommunications Standards Institute www.etsi.org
- CTIA: Cellular Telecommunications Industry Association www.wow-com.com
- TMForum: The TeleManagement Forum www.tmforum.org

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- ATIS: Alliance for Telecommunications Industry Solutions www.atis.org
- CITELE PCC.I: Inter-American Telecommunication Commission, Permanent Consultative Committee I www.citel.oas.org
- ITSMF: Information Technology Senior Management Forum www.itsmfi.org
- DMTF: Distributed Management Task Force www.dmtf.org
- OASIS: Organization for the Advancement of Structured Information Standards www.oasis-open.org
- IETF: Internet Engineering Task Force www.ietf.org
- NIST: National Institute of Standards and Technology www.nist.gov/index.html
- OMG: Object Management Group www.omg.org
- W3C: The World Wide Web Consortium www.w3.org
- ANSI: American National Standards Institute www.ansi.org
- 3GPP: 3rd Generation Partnership Project www.3gpp.org
- GSMA: The GSM Association www.gsm.org

The BSS/OSS Impact

We know from membership lists which carriers are actively participating with which SDOs. But what about the suppliers—how important are these standards for operational and business support systems vendors? I asked John Wilmes, Chief Technical Architect, communications sector, Progress Software, for some insight. “Standards compliance is most important where it is required for basic functionality or interoperability, e.g. networking,” explained Wilmes. “In B/OSS, it is mainly important to the extent that individual service providers make it an internal or external requirement. But in B/OSS, we are really talking about conformance rather than compliance.”

Furthermore, it isn’t automatically true that if a service provider is compliant to the latest DOCSIS standard, therefore all of its vendors are compliant as well. “A service provider’s internal adoption of standards can be a separate issue from requiring vendors to comply, and often serves different goals with different timelines,” said Mr. Wilmes. This complicates our task, especially since, as Wilmes

“Verizon is heavily involved in standards activity.” Chris Mayer, VP Systems Integration, Verizon.

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ATIS	CITEL PCC I	CITEL PCC II	CTIA Carrier Members	CTIA Supplier Members	DMTF Board	DMTF Participation	DMTF CDM Leadership	DMTF CDM Participatory	DMTF SMF Participatory	ETSI	ITSMF Global Members	TMForum
Alcatel-Lucent	AT&T	Alcatel-Lucent	AT&T	Alcatel-Lucent	Cisco	Ericsson	HP	IBM	HP	Alcatel	HP	Alcatel-Lucent
AT&T	Cisco	Ericsson	Cox	Cisco	HP	France Telecom			IBM	Amdocs	IBM	Amdocs
Bell Canada	Ericsson	Nokia-Siemens	Sprint	Ericsson	IBM	NEC				Apple		AT&T
Cisco	Microsoft	Orange	T-Mobile	Microsoft	Microsoft	Telefonica				AT&T		Bell Canada
Cox	Orange	RIM	Verizon	RIM	Oracle					Cisco		Cisco
Ericsson	RIM	Telefonica		Telefonica USA						Deutsche Telekom		CSGI
HP	Telecordia	Verizon								France Telecom		Ericsson
Microsoft	Telefonica									HP		France Telecom
NEC	Verizon									Microsoft		HP
Nokia Siemens										NEC		IBM
RIM										Nokia-Siemens		Microsoft
Sprint										NTT		NetCracker
Telecordia										Orange		Nokia-Siemens
Time Warner Cable										Sprint		Sprint
Verizon										Swisscom		Swisscom
										Telefonica		Telecordia
										UPC		Telefonica
										Verizon		Time Warner Cable
										Vodafone		Verizon
												Vodafone

continued, “For competitive reasons, some service providers won’t discuss critical advantages they gain from standards, so we may never have a complete picture of adoption levels.”

So who’s driving the most important standards? Again, John Wilmes:

Each standards organization has at least one area that they control and at least one area where they overlap with others. Most of them are making much more of an effort lately to work together strategically, because member companies are demanding that their contributions be used as efficiently as possible. This is leading to proposals for various kinds of standards federation,

particularly for information models. Three of the most important bodies right now are TM Forum, itsMF and DMTF, because of the convergence of IT operations with B/OSS in particular and with service-based enterprises in general. The effect of this convergence is now becoming apparent and is reflected in standards initiatives such as eTOM-ITIL integration.

Andrew Lee, VP of Marketing, OSSera, Inc., also sees standards as key enablers of business transformation initiatives that are so popular today. “Standards provide a common language for software providers to communicate with carriers and other partner solution providers,” said Lee. “Without this common language, solutions become decoupled, overlap, and form redundant silos, which do not unify the end-to-end processes flow for true business transformation and automation.”

So, Who's Compliant?

Some companies, like Oracle, are so massive, touch so many parts of the overall IT space, and evolve in so many directions each week that an investigation into each and every standard they comply with could be infinite. Many other vendors just indicate that they are compliant with “industry-accepted interoperability standards.” According to numerous vendor sources contacted for this article, there are many reasons why collecting definitive data on a vendors’ standard’s compliance is a difficult task: some of this data is protected for competitive reasons; standards adoption and compliance changes rapidly; and different carriers require different standards.

Standards set the stage for business transformation to connect the dots.

When a Standard is not Standard

The vendor community must exhibit conformance to a service provider’s internally adopted standard in order to win the business, but not everyone agrees on which standards are best. And some standards that are trumpeted by vendors just don’t register on the continuum of importance in the same way for carriers.

Notably, while researching this article, I found most vendors very eager to talk about TMF standards and frameworks, yet heard and read very little from communications service providers (CSPs) about the relevancy of TMF standards compliance. The TMF seems well poised to be the de facto SDO as it relates to the development of OSS and BSS standards, but does anyone other than the vendor community care?

Telecom analyst Alan Quayle recently polled CIOs during research into business transformation, and discussed the results on his blog (<http://www.alanquayle.com/blog/2011/02/its-time-telcos-made-some-chan.html>). Alan made a surprising discovery: “In a market study I performed last year on business transformation, to my surprise, few operators conform

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to the TMF specifications, most have no intention. Even BT, the founder of TMF, does not consider its architecture TMF-compliant.”

The problem with standards advanced by TMF, according to Quayle’s research, are significant.

“All Telcos deliver the same services: voice, video and data to pre- and post-paid customers,” writes Quayle. “Commonality should be high, yet TMF has failed to deliver...Framework is seen as a repackaging of existing specifications, its perceived as marketing spin, not progress on specifications created in some cases 10 years ago and based on nearly 30 year old ideas created at BT and AT&T.”

This point has not gone unnoticed in the vendor community.

In a post on the official Amdocs blog, Tal Givoly wrote:

Though TMF’s framework standards have been widely adopted, its interface standards typically have not. There are many reasons for this, which I discuss often within the forum’s committees and activities. I believe that until we generate relevant interface standards, this trend won’t change. What I mean by an interface standard is one that if two separate systems each implement their side of an interface, integration between them will be almost “plug-and-play.”

The Role of Standards in the Future

Essentially, as it relates to the OSS and BSS software, the problem remains that many vendor solutions are closed—that separate vendor systems cannot interact with each other without some heavy mediation software or custom code. High-level compliance to regulatory, protocol, and security requirements is not really the concern, because there are financial incentives that prompt vendors and carriers to stay at the forefront of, say SIP for VoIP, or a fiber standard like OC-192.

As Alan Quayle explained to me, “The biggest issue is for operators to get their data out of vendors solutions that try to lock them in, so that needs to be spec’d, at least at a basic level, and let’s face it, a call is a call whether it’s happening in Outer Mongolia or downtown Chicago.”

In an article for business management on the official British Telecom Blog, BT writes: “Don’t feel like you are tied to any of your suppliers. If they no longer meet your needs, or fail to give you the value you deserve, they are no help to your business or your bottom line.”

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This will become increasingly important as carriers, like BT, seek to establish IP interoperability offerings to create and market communications systems that extend across multiple network domains. A white paper BT released at the end of September outlines this strategy:

Services like high-definition (HD) voice calling and video calling can deliver much-needed revenues for fixed and mobile network operators, ISPs, and over-the-top content and application providers. But they are available only in islands: there is little interworking between different providers’ services, and it is limited between managed networks and over-the-top internet applications. If service providers can enable interworking, the potential extra service revenue may be as much as £3.5 billion globally by the end of 2015, and more beyond.

Widespread adoption of open interoperability standards could drive a revolution in the industry. We could very well see a commercialized communications operating system, or CommOS, evolve from this concept in the decades to come. (For further discussion on this topic, check out this article).

In the general IT space, there is a considerable development in this direction, led by SODs like the IT Infrastructure Library (ITIL) and The Open Group Architecture Framework (TOGAF). Who is positioned to lead this charge for the OSS/BSS marketplace? Certainly the ITSMF and the DMTF are doing valuable work in this area. But probably the best candidate for driving this change, as Amdocs noted, is the TMForum itself, although it would have to undertake a considerable business transformation of its own to become an enabler of the CommOS revolution.